General

Guideline Title

Diagnosis and treatment of non-muscle invasive bladder cancer: AUA/SUO guideline.

Bibliographic Source(s)

Chang SS, Boorjian SA, Chou R, Clark PE, Daneshmand S, Konety BR, Pruthi R, Quale DZ, Ritch CR, Seigne JD, Skinner EC, Smith ND, McKiernan JM. Diagnosis and treatment of non-muscle invasive bladder cancer: AUA/SUO guideline. Linthicum (MD): American Urological Association Education and Research, Inc.; 2016 Apr. 45 p. [253 references]

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

Definitions for the body of evidence strength (Grade A, B, or C), the strength of the recommendations (Strong, Moderate, Conditional), and for statements labeled as Clinical Principle and Expert Opinion are provided at the end of the "Major Recommendations" field.

Diagnosis

1. At the time of resection of suspected bladder cancer, a clinician should perform a thorough cystoscopic examination of a patient's entire urethra and bladder that evaluates and documents tumor size, location, configuration, number, and mucosal abnormalities. (*Clinical Principle*)
2. At initial diagnosis of a patient with bladder cancer, a clinician should perform complete visual resection of the bladder tumor(s), when technically feasible. (*Clinical Principle*)
3. A clinician should perform upper urinary tract imaging as a component of the initial evaluation of a patient with bladder cancer. (*Clinical Principle*)
4. In a patient with a history of non-muscle invasive bladder cancer (NMIBC) with normal cystoscopy and positive cytology, a clinician should consider prostatic urethral biopsies and upper tract imaging, as well as enhanced cystoscopic techniques (blue light cystoscopy, when available), ureteroscopy, or random bladder biopsies. (*Expert Opinion*)

Risk Stratification

5. At the time of each occurrence/recurrence, a clinician should assign a clinical stage and classify a patient accordingly as "low-," "intermediate-," or "high-risk." (*Moderate Recommendation; Evidence Strength: Grade C*)

Variant Histologies

6. An experienced genitourinary pathologist should review the pathology of a patient with any doubt in regards to variant or suspected variant histology (e.g., micropapillary, nested, plasmacytoid, neuroendocrine, sarcomatoid), extensive squamous or glandular differentiation, or the presence/absence of lymphovascular invasion (LVI). (*Moderate Recommendation; Evidence Strength: Grade C*)
7. If a bladder sparing approach is being considered in a patient with variant histology, then a clinician should perform a restaging transurethral resection of bladder tumor (TURBT) within four to six weeks of the initial TURBT. (*Expert Opinion*)
8. Due to the high rate of upstaging associated with variant histology, a clinician should consider offering initial radical cystectomy. (*Expert Opinion*)

Urine Markers after Diagnosis of Bladder Cancer

9. In surveillance of NMIBC, a clinician should not use urinary biomarkers in place of cystoscopic evaluation. (*Strong Recommendation; Evidence Strength: Grade B*)
10. In a patient with a history of low-risk cancer and a normal cystoscopy, a clinician should not routinely use a urinary biomarker or cytology during surveillance. (*Expert Opinion*)
11. In a patient with NMIBC, a clinician may use biomarkers to assess response to intravesical bacillus Calmette-Guerin (BCG) (UroVysion® FISH) and adjudicate equivocal cytology (UroVysion® FISH and ImmunoCyt™). (*Expert Opinion*)

TURBT/Repeat Resection: Timing, Technique, Goal, Indication

12. In a patient with non-muscle invasive disease who underwent an incomplete initial resection (not all visible tumor treated), a clinician should perform repeat transurethral resection or endoscopic treatment of all remaining tumor if technically feasible. (*Strong Recommendation; Evidence Strength: Grade B*)
13. In a patient with high-risk, high-grade Ta tumors, a clinician should consider performing repeat transurethral resection of the primary tumor site within six weeks of the initial TURBT. (*Moderate Recommendation; Evidence Strength: Grade C*)
14. In a patient with T1 disease, a clinician should perform repeat transurethral resection of the primary tumor site to include muscularis propria within six weeks of the initial TURBT. (*Strong Recommendation; Evidence Strength: Grade B*)

Intravesical Therapy; BCG/Maintenance; Chemotherapy/BCG Combinations

15. In a patient with suspected or known low- or intermediate-risk bladder cancer, a clinician should consider administration of a single postoperative instillation of intravesical chemotherapy (e.g., mitomycin C or epirubicin) within 24 hours of TURBT. In a patient with a suspected perforation or extensive resection, a clinician should not use postoperative chemotherapy. (*Moderate Recommendation; Evidence Strength: Grade B*)
16. In a low-risk patient, a clinician should not administer induction intravesical therapy. (*Moderate Recommendation; Evidence Strength: Grade C*)
17. In an intermediate-risk patient a clinician should consider administration of a six-week course of induction intravesical chemotherapy or immunotherapy. (*Moderate Recommendation; Evidence Strength: Grade B*)
18. In a high-risk patient with newly diagnosed carcinoma *in situ* (CIS), high-grade T1, or high-risk Ta urothelial carcinoma, a clinician should administer a six-week induction course of BCG. (*Strong Recommendation; Evidence Strength: Grade B*)
19. In an intermediate-risk patient who completely responds to an induction course of intravesical chemotherapy, a clinician may utilize maintenance therapy. (*Conditional Recommendation; Evidence Strength: Grade C*)
20. In an intermediate-risk patient who completely responds to induction BCG, a clinician should consider maintenance BCG for one year, as tolerated. (*Moderate Recommendation; Evidence Strength: Grade C*)
21. In a high-risk patient who completely responds to induction BCG, a clinician should continue maintenance BCG for three years, as tolerated. (*Moderate Recommendation; Evidence Strength: Grade B*)

BCG Relapse and Salvage Regimens

22. In an intermediate- or high-risk patient with persistent or recurrent disease or positive cytology following intravesical therapy, a clinician should consider performing prostatic urethral biopsy and an upper tract evaluation prior to administration of additional intravesical therapy. (*Conditional Recommendation; Evidence Strength: Grade C*)
23. In an intermediate- or high-risk patient with persistent or recurrent Ta or CIS disease after a single course of induction intravesical BCG, a clinician should offer a second course of BCG. (*Moderate Recommendation; Evidence Strength: Grade C*)
24. In a patient fit for surgery with high-grade T1 disease after a single course of induction intravesical BCG, a clinician should offer radical cystectomy. (*Moderate Recommendation; Evidence Strength: Grade C*)

25. A clinician should not prescribe additional BCG to a patient who is intolerant of BCG or has documented recurrence on TURBT of high-grade, non-muscle-invasive disease and/or CIS within six months of two induction courses of BCG or induction BCG plus maintenance. (*Moderate Recommendation; Evidence Strength: Grade C*)
26. In a patient with persistent or recurrent intermediate- or high-risk NMIBC who is unwilling or unfit for cystectomy following two courses of BCG, a clinician may recommend clinical trial enrollment. A clinician may offer this patient intravesical chemotherapy when clinical trials are unavailable. (*Expert Opinion*)

Role of Cystectomy in NMIBC

27. In a patient with Ta low- or intermediate-risk disease, a clinician should not perform radical cystectomy until bladder-sparing modalities (staged TURBT, intravesical therapies) have failed. (*Clinical Principle*)
28. In a high-risk patient who is fit for surgery with persistent high-grade T1 disease on repeat resection, or T1 tumors with associated CIS, LVI, or variant histologies, a clinician should consider offering initial radical cystectomy. (*Moderate Recommendation; Evidence Strength: Grade C*)
29. In a high-risk patient with persistent or recurrent disease within one year following treatment with two induction cycles of BCG or BCG maintenance, a clinician should offer radical cystectomy. (*Moderate Recommendation; Evidence Strength: Grade C*)

Enhanced Cystoscopy

30. In a patient with NMIBC, a clinician should offer blue light cystoscopy at the time of TURBT, if available, to increase detection and decrease recurrence. (*Moderate Recommendation; Evidence Strength: Grade B*)
31. In a patient with NMIBC, a clinician may consider use of narrow-band imaging (NBI) to increase detection and decrease recurrence. (*Conditional Recommendation; Evidence Strength: Grade C*)

Risk-Adjusted Surveillance and Follow-up Strategies

32. After completion of the initial evaluation and treatment of a patient with NMIBC, a clinician should perform the first surveillance cystoscopy within three to four months. (*Expert Opinion*)
33. For a low-risk patient whose first surveillance cystoscopy is negative for tumor, a clinician should perform subsequent surveillance cystoscopy six to nine months later, and then annually thereafter; surveillance after five years in the absence of recurrence should be based on shared-decision making between the patient and clinician. (*Moderate Recommendation; Evidence Strength: Grade C*)
34. In an asymptomatic patient with a history of low-risk NMIBC, a clinician should not perform routine surveillance upper tract imaging. (*Expert Opinion*)
35. In a patient with a history of low-grade Ta disease and a noted sub-centimeter papillary tumor(s), a clinician may consider in-office fulguration as an alternative to resection under anesthesia. (*Expert Opinion*)
36. For an intermediate-risk patient whose first surveillance cystoscopy is negative for tumor, a clinician should perform subsequent cystoscopy with cytology every three to six months for two years, then six to twelve months for years three and four, and then annually thereafter. (*Expert Opinion*)
37. For a high-risk patient whose first surveillance cystoscopy is negative for tumor, a clinician should perform subsequent cystoscopy with cytology every three to four months for two years, then six months for years three and four, and then annually thereafter. (*Expert Opinion*)
38. For an intermediate- or high-risk patient, a clinician should consider performing surveillance upper tract imaging at one- to two-year intervals. (*Expert Opinion*)

Definitions

Body of Evidence Strength

Grade A: Well-conducted and highly-generalizable randomized controlled trials (RCTs) or exceptionally strong observational studies with consistent findings

Grade B: RCTs with some weaknesses of procedure or generalizability or moderately strong observational studies with consistent findings

Grade C: RCTs with serious deficiencies of procedure, generalizability, or extremely small sample sizes or observational studies that are inconsistent, have small sample sizes, or have other problems that potentially confound interpretation of data

Note: By definition, Grade A evidence is evidence about which the Panel has a high level of certainty, Grade B evidence is evidence about which the Panel has a moderate level of certainty, and Grade C evidence is evidence about which the Panel has a low level of certainty.

American Urological Association (AUA) Nomenclature Linking Statement Type to Level of Certainty, Magnitude of Benefit or Risk/Burden, and

Body of Evidence Strength

	Evidence Strength A (High Certainty)	Evidence Strength B (Moderate Certainty)	Evidence Strength C (Low Certainty)
Strong Recommendation **(Net benefit or harm substantial)**	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) is substantial Applies to most patients in most circumstances and future research is unlikely to change confidence	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) is substantial Applies to most patients in most circumstances but better evidence could change confidence	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) appears substantial Applies to most patients in most circumstances but better evidence is likely to change confidence (rarely used to support a Strong Recommendation)
Moderate Recommendation **(Net benefit or harm moderate)**	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) is moderate Applies to most patients in most circumstances and future research is unlikely to change confidence	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) is moderate Applies to most patients in most circumstances but better evidence could change confidence	Benefits > Risks/Burdens (or vice versa) Net benefit (or net harm) appears moderate Applies to most patients in most circumstances but better evidence could change confidence
Conditional Recommendation **(No apparent net benefit or harm)**	Benefits = Risks/Burdens Best action depends on individual patient circumstances Future research unlikely to change confidence	Benefits = Risks/Burdens Best action depends on individual patient circumstances Better evidence could change confidence	Balance between Benefits & Risks/Burdens unclear Alternative strategies may be equally reasonable Better evidence likely to change confidence
Clinical Principle	A statement about a component of clinical care that is widely agreed upon by urologists or other clinicians for which there may or may not be evidence in the medical literature		
Expert Opinion	A statement, achieved by consensus of the Panel, that is based on members' clinical training, experience, knowledge, and judgment for which there is no evidence		

Clinical Algorithm(s)

An algorithm titled "Non-muscle Invasive Bladder Cancer: AUA/SUO Treatment Algorithm" is available from the American Urological Association Education and Research, Inc. (AUA) Web site .

Scope

Disease/Condition(s)

Non-muscle invasive bladder cancer (NMIBC)

Guideline Category

Diagnosis

Evaluation

Management

Risk Assessment

Treatment

Clinical Specialty

Oncology

Surgery

Urology

Intended Users

Patients

Physician Assistants

Physicians

Guideline Objective(s)

To provide a risk-stratified clinical framework for the management of non-muscle invasive bladder cancer (NMIBC)

Target Population

Patients with suspected or confirmed non-muscle invasive bladder cancer (NMIBC)

Interventions and Practices Considered

Diagnosis/Risk Assessment/Evaluation

1. Cystoscopic examination of entire urethra and bladder
2. Complete visual resection of the bladder tumor after initial diagnosis of bladder cancer
3. Upper urinary tract imaging
4. Prostatic urethral biopsies
5. Enhanced cystoscopic techniques (blue light cystoscopy, narrow-band imaging [NBI])
6. Ureteroscopy
7. Random bladder biopsies
8. Risk stratification and clinical staging
9. Review of possible variant histologies by an experienced genitourinary pathologist
10. Use of urinary biomarkers after diagnosis of bladder cancer

Treatment/Management

1. Radical cystectomy
2. Transurethral resection of bladder tumor (TURBT)
3. Repeat TURBT
4. Endoscopic treatment
5. Postoperative instillation of intravesical chemotherapy (e.g., mitomycin C or epirubicin) or immunotherapy
6. Bacillus Calmette-Guerin (BCG) therapy
7. Maintenance therapy
8. BCG salvage regimens

9. Clinical trial enrollment
10. Risk-adjusted surveillance and follow-up strategies

Major Outcomes Considered

- Diagnostic accuracy of urinary biomarkers (specificity, predictive values, and likelihood ratios, using cystoscopy with biopsy as the reference standard)
- Mortality
- Need for cystectomy
- Rates of recurrence and progression to muscle-invasive bladder cancer (MIBC)
- Quality of life
- Adverse effects of diagnostic testing (false-positives, labeling, anxiety, complications of cystoscopy)
- Adverse effects of treatment (cystitis, urinary urgency, urinary frequency, incontinence, hematuria, pain, urosepsis, myelosuppression)

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Searches of Unpublished Data

Description of Methods Used to Collect/Select the Evidence

Systematic Review

The systematic review utilized in the creation of this guideline was completed in part through the Agency for Healthcare Research and Quality (AHRQ) and through additional supplementation that further addressed additional key questions and more recently published literature. A research librarian experienced in conducting literature searches for comparative effectiveness reviews searched in Ovid MEDLINE (January 1990–October 2014), Cochrane Central Register of Controlled Trials (through September 2014), Cochrane Database of Systematic Reviews (through September 2014), Health Technology Assessment (through 3rd Quarter, 2014), National Health Sciences Economic Evaluation Database (through 3rd Quarter, 2014), and Database of Abstracts of Reviews of Effects (through 3rd Quarter, 2014) to capture both published and grey literature. Reference lists and previous systematic reviews were also reviewed for additional studies. Database searches resulted in 3,740 potentially relevant articles. After dual review of abstracts and titles, 643 articles were selected for full-text dual review, and 149 studies (in 192 publications) were determined to meet inclusion criteria and were included in this review. The AHRQ review was then updated by a consultant methodologist though September 2, 2015. Reference lists and previous systematic reviews were also reviewed for additional studies. This supplementation added 29 studies to the completed systematic review used in the creation of guideline statements.

Number of Source Documents

A total of 149 studies (in 192 publications) were determined to meet inclusion criteria and were included in the original systematic review. A supplemental review added 29 studies to the completed systematic review used in the creation of guideline statements.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Body of Evidence Strength

Grade A: Well-conducted and highly-generalizable randomized controlled trials (RCTs) or exceptionally strong observational studies with consistent findings

Grade B: RCTs with some weaknesses of procedure or generalizability or moderately strong observational studies with consistent findings

Grade C: RCTs with serious deficiencies of procedure, generalizability, or extremely small sample sizes or observational studies that are inconsistent, have small sample sizes, or have other problems that potentially confound interpretation of data

Note: By definition, Grade A evidence is evidence about which the Panel has a high level of certainty, Grade B evidence is evidence about which the Panel has a moderate level of certainty, and Grade C evidence is evidence about which the Panel has a low level of certainty.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Data Extraction and Data Management

For treatment studies, the following information was extracted into evidence tables: study design, setting, inclusion and exclusion criteria, dose and duration of treatment for experimental and control groups, duration of follow-up, number of subjects screened, eligible and enrolled population characteristics (including age, race, sex, stage of disease, and functional status), results, adverse events, withdrawals due to adverse events, and sources of funding. Relative risks and associated 95 percent confidence intervals (CIs) were calculated based on the information provided (sample sizes and incidence of outcomes in each intervention group). Discrepancies between calculated and reported results were noted when present.

For diagnostic accuracy studies, the following information was abstracted: setting, screening test or tests, method of data collection, reference standard, inclusion criteria, population characteristics (including age, sex, race, smoking status, signs or symptoms, and prior bladder cancer stage or grade), proportion of individuals with bladder cancer, bladder cancer stage and grade, definition of a positive screening exam, proportion of individuals unexaminable by the screening test, proportion who did not undergo reference standard, results, and sources of funding. When possible, two-by-two tables were created from information provided (sample size, prevalence, sensitivity, and specificity) and compared to calculated measures of diagnostic accuracy based on the two-by-two tables with reported results. Discrepancies between calculated and reported results were noted when present. Data extraction for each study was completed by one investigator and independently reviewed for accuracy and completeness by a second investigator.

Assessment of the Risk of Bias of Individual Studies

Risk of bias was assessed for randomized trials and observational studies using criteria adapted from those developed by the U.S. Preventive Services Task Force. Studies of diagnostic accuracy were rated using criteria adapted from Quality Assessment of Diagnostic Accuracy Studies (QUADAS)-2. These criteria were applied in conjunction with the approaches recommended in the AHRQ Methods Guide for Medical Interventions and the AHRQ Methods Guide for Medical Test Reviews. Two investigators independently assessed the risk of bias of each study. Discrepancies were resolved through discussion and consensus. Each study was rated as "low," "medium," or "high" risk of bias.

Determination of Evidence Strength

The categorization of evidence strength is conceptually distinct from the quality of individual studies. Evidence strength refers to the body of evidence available for a particular question and includes not only individual study quality but consideration of study design, consistency of findings across studies, adequacy of sample sizes, and generalizability of samples, settings, and treatments for the purposes of the guideline. See the "Rating Scheme for the Strength of the Evidence" field for the categories of the body of evidence.

Methods Used to Formulate the Recommendations

Expert Consensus

Expert Consensus (Delphi)

Description of Methods Used to Formulate the Recommendations

This document was written by the Non-Muscle Invasive Bladder Cancer Guideline Panel of the American Urological Association Education and Research, Inc. (AUA), which was created in 2015. The Practice Guidelines Committee (PGC) of the AUA selected the committee chair. Panel members were selected by the chair. Membership of the panel included specialists in urology/oncology with specific expertise on this disorder. The mission of the panel was to develop recommendations that are analysis-based or consensus-based, depending on panel processes and available data, for optimal clinical practices in the treatment of non-muscle invasive bladder cancer.

AUA Nomenclature: Linking Statement Type to Evidence Strength

The AUA nomenclature system explicitly links statement type to body of evidence strength, level of certainty, magnitude of benefit or risk/burdens, and the Panel's judgment regarding the balance between benefits and risks/burdens (see the "Rating Scheme for the Strength of the Recommendations" field).

Where gaps in the evidence existed, the Panel provides guidance in the form of *Clinical Principles* or *Expert Opinion* with consensus achieved using a modified Delphi technique if differences of opinion emerged.

Rating Scheme for the Strength of the Recommendations

American Urological Association (AUA) Nomenclature Linking Statement Type to Level of Certainty, Magnitude of Benefit or Risk/Burden, and Body of Evidence Strength

	Evidence Strength A (High Certainty)	**Evidence Strength B (Moderate Certainty)**	**Evidence Strength C (Low Certainty)**
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Clinical Principle	A statement about a component of clinical care that is widely agreed upon by urologists or other clinicians for which		

Expert Opinion	**Evidence Strength A (High Certainty)**	**Evidence Strength B (Moderate Certainty)**	**Evidence Strength C (Low Certainty)**
	there may or may not be evidence in the medical literature A statement, achieved by consensus of the Panel, that is based on members' clinical training, experience, knowledge, and judgment for which there is no evidence		

Cost Analysis

Published cost analyses were reviewed.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

The American Urological Association Education and Research, Inc. (AUA) conducted a thorough peer review process. The draft guidelines document was distributed to 128 peer reviewers, 66 of whom submitted comments. The Panel reviewed and discussed all submitted comments and revised the draft as needed. Once finalized, the guideline was submitted for approval to the Practice Guidelines Committee and Science and Quality Council (S&Q). Then it was submitted to the AUA Board of Directors for final approval. It was approved by the AUA Board of Directors in April 2016.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

The 38 statements created for this guideline vary in level of evidence, but none include Level A evidence, and a majority are Level C evidence.

For some clinical issues, there was little or no evidence from which to construct evidence-based statements. Where gaps in the evidence existed, the Panel provides guidance in the form of *Clinical Principles* or *Expert Opinions* with consensus.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

The magnitude of benefit or risk/burdens, and the Panel's judgment regarding the balance between benefits and risks/burdens are taken into account for each guideline statement. Refer to the original guideline document for a discussion of evidence of benefits for specific statements.

Potential Harms

- The most common side effects of single instillation postoperative chemotherapy are irritative lower urinary tract symptoms, but severe complications have been reported in patients with drug extravasation. Thus, immediate intravesical chemotherapy should be avoided when transurethral resection of bladder tumor (TURBT) is extensive, perforation is suspected, significant bleeding requires bladder irrigations, or the tumor appears invasive.
- Protein-based urine markers have a tendency to be falsely positive in the presence of inflammation, resulting in lower specificity than urine cytology. This can result in subjecting patients to unnecessary diagnostic evaluations.
- Bacillus Calmette-Guerin (BCG) has a greater risk of adverse events, both local (granulomatous cystitis, dysuria, hematuria) and systemic (fever), as compared to most intravesical chemotherapies. Approximately 70% of patients receiving BCG complain of side effects with 8% of these being severe enough to discontinue treatment. The toxicity of long-term maintenance and the lack of high-quality studies to support

the value of more prolonged maintenance over a re-induction course at the time of relapse have led some to question the routine use of a three-year maintenance program, especially in lower risk patients. In a sub-group analysis of European Organization for Research and Treatment of Cancer (EORTC) 30962, three years of full dose maintenance was not superior to one year of full dose maintenance in an intermediate-risk group (as defined by a progression risk score of ≤6 and a recurrence score of ≤9 using the EORTC risk calculator).

- The potential benefits of timely, upfront radical cystectomy need to be weighed against the risks associated with cystectomy, such as complications, morbidity, and decreased quality of life for any given patient. Radical cystectomy with urinary diversion has considerable morbidity, including gastrointestinal, genitourinary, infectious and wound-related complications totaling over 60% within 90 days of surgery, even in high-volume centers of excellence and regardless of open versus robotic approaches. Mortality after radical cystectomy is typically <5%, but may increase substantially in the elderly with 90-day mortality rates over 10% in patients >75 years of age and almost 20% in octogenarians. Thus, the risks of radical cystectomy and urinary diversion must be weighed and balanced carefully against the risks of disease progression and potential loss of the opportunity for cure in high-risk patients.
- Life-long surveillance in the absence of documented recurrence subjects a patient to repeated anxiety, discomfort, and the small risk of infection or bleeding associated with cystoscopic surveillance of the bladder.
- The magnitude of benefit or risk/burdens, and the Panel's judgment regarding the balance between benefits and risks/burdens are taken into account for each guideline statement. Refer to the original guideline document for additional discussion of evidence of harms for specific statements.

Qualifying Statements

Qualifying Statements

- While these guidelines do not necessarily establish the standard of care, the American Urological Association Education and Research, Inc. (AUA) seeks to recommend and to encourage compliance by practitioners with current best practices related to the condition being treated. As medical knowledge expands and technology advances, the guidelines will change. Today these evidence-based guidelines statements represent not absolute mandates but provisional proposals for treatment under the specific conditions described in each document. For all these reasons, the guidelines do not pre-empt physician judgment in individual cases.
- Treating physicians must take into account variations in resources, and patient tolerances, needs, and preferences. Conformance with any clinical guideline does not guarantee a successful outcome. The guideline text may include information or recommendations about certain drug uses ('off label') that are not approved by the U.S. Food and Drug Administration (FDA), or about medications or substances not subject to the FDA approval process. AUA urges strict compliance with all government regulations and protocols for prescription and use of these substances. The physician is encouraged to carefully follow all available prescribing information about indications, contraindications, precautions and warnings. These guidelines and best practice statements are not in-tended to provide legal advice about use and misuse of these substances.
- Although guidelines are intended to encourage best practices and potentially encompass available technologies with sufficient data as of close of the literature review, they are necessarily time-limited. Guidelines cannot include evaluation of all data on emerging technologies or management, including those that are FDA-approved, which may immediately come to represent accepted clinical practices. For this reason, the AUA does not regard technologies or management which are too new to be addressed by this guideline as necessarily experimental or investigational.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Clinical Algorithm

Mobile Device Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Chang SS, Boorjian SA, Chou R, Clark PE, Daneshmand S, Konety BR, Pruthi R, Quale DZ, Ritch CR, Seigne JD, Skinner EC, Smith ND, McKiernan JM. Diagnosis and treatment of non-muscle invasive bladder cancer: AUA/SUO guideline. Linthicum (MD): American Urological Association Education and Research, Inc.; 2016 Apr. 45 p. [253 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2016 Apr

Guideline Developer(s)

American Urological Association Education and Research, Inc. - Medical Specialty Society

Society of Urologic Oncology - Medical Specialty Society

Source(s) of Funding

Funding of the Panel was provided by the American Urological Association Education and Research, Inc. (AUA); Panel members received no remuneration for their work.

Guideline Committee

Non-Muscle-Invasive Bladder Cancer Panel

Composition of Group That Authored the Guideline

Panel Members: Sam S. Chang, MD, MBA (*Chair*), Vanderbilt University Medical Center, Nashville, TN; James M. McKiernan, MD (*Vice Chair*), Columbia University Medical Center, New York, NY; Stephen A. Boorjian, MD, Mayo Clinic, Rochester, MN; Peter E. Clark, MD, Vanderbilt University Medical Center, Nashville, TN; Siamak Daneshmand, MD, USC Institute of Urology, Los Angeles, CA; Badrinath R. Konety, MD, FACS, MBA, University of Minnesota, Minneapolis, MN; Raj Pruthi, MD, FACS, UNC School of Medicine, Chapel Hill, NC; Diane Z. Quale (*Patient Advocate*), Bladder Cancer Advocacy Network, Bethesda, MD; Chad R. Ritch, MD, MBA, University of Miami Health System, Miami, FL; John D. Seigne, MD, Dartmouth Hitchcock Medical Center, Lebanon, NH; Eila Curlee Skinner, MD, Stanford University, Stanford, CA; Norm D. Smith, MD, University of Chicago Medical Center, Chicago, IL

Financial Disclosures/Conflicts of Interest

Conflict of Interest (COI) Disclosures

All panel members completed COI disclosures. Those marked with (C) indicate that compensation was received. Disclosures listed include both topic– and non-topic-related relationships.

Consultant/Advisor: Sam S. Chang, Astellas (C), GLG (C), Bayer (C), Tolmar (C); Peter E. Clark, Galil Medical (C); Siamak Daneshmand, Photocure (C); Badrinath R. Konety, Axogen Inc., Takeda Inc. (C)

Meeting Participant or Lecturer: Siamak Daneshmand, Photocure (C)

Scientific Study or Trial: Sam S. Chang, NIH (C), Cold Genesys, Inc. (C); Siamak Daneshmand, Photocure (C); Badrinath R. Konety, Photocure (C), Myriad Genetics (C), Genomic Health (C); James M. McKiernan, Sanofi (C)

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available from the American Urological Association Education and Research, Inc. (AUA) Web site.

Availability of Companion Documents

The following is available:

- Chou R, Buckley D, Fu R, Gore JL, Gustafson K, Griffin J, Grusing S, Selph S. Emerging approaches to diagnosis and treatment of non-muscle invasive bladder cancer. Comparative Effectiveness Review No. 153. AHRQ Publication 15(16)-EHC017-EF. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2015 Oct. 916 p. Available from the Agency for Healthcare Research and Quality (AHRQ) Web site.

The AUA Guidelines-At-A-Glance mobile app is available for download from the American Urological Association Education and Research, Inc. (AUA) Web site.

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on September 16, 2016. The information was not verified by the guideline developer.

Copyright Statement

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